

**Flood Control Project Maintenance
Levee Inspections**

Fall 2018 Levee Maintenance Deficiency Summary Report

Overall LMA & Unit Ratings, including DWR Erosion Survey

San Joaquin River Basin

RD2089	Overall LMA Rating	Total LMA Miles						
Reclamation District No. 2089 Stark	U	2.86						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Earthen Levee</i>								
Vegetation	1.41	3.22	14.29	500.03%	0.05			
Trim / Thin Trees	0.01	0.07	0.29	10.15%				
Encroachments	0.03		0.03	1.05%	0.41	0.21		
Animal Control	0.10	0.16	0.74	25.89%				
Slope Stability	0.02		0.02	0.70%				
Erosion / Bank Caving	0.01		0.01	0.35%				
Crown Surface / Depressions / Rutting	0.06	0.01	0.10	3.50%				
Flood Preparedness & Training	0.03		0.03	1.05%				
<i>Supplemental</i>								
DWR Erosion Survey	0.01		0.01	0.35%				
DWR UCIP Field Study					0.05			
DWR UCIP LMA Responsibility								
2017 Storm Damage	0.02		0.02	0.70%				
<i>LMA Totals:</i>	1.70	3.46	15.54	543.77%	0.51	0.21	0.00	0.00

Unit No. 01 Old River RB	Overall Unit Rating	Total Unit Miles						
RD2089	U	1.51						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Earthen Levee</i>								
Vegetation	0.01	3.09	12.37	817.99%				
Trim / Thin Trees		0.06	0.24	15.87%				
Encroachments	0.01		0.01	0.66%	0.38	0.13		
Animal Control	0.02		0.02	1.32%				
Slope Stability	0.01		0.01	0.66%				
Crown Surface / Depressions / Rutting	0.04		0.04	2.65%				
<i>Supplemental</i>								
DWR Erosion Survey	0.01		0.01	0.66%				
DWR UCIP Field Study					0.04			
DWR UCIP LMA Responsibility								
2017 Storm Damage	0.01		0.01	0.66%				
<i>Unit Totals:</i>	0.11	3.15	12.71	840.48%	0.42	0.13	0.00	0.00

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Overall LMA & Unit Ratings, including DWR Erosion Survey

San Joaquin River Basin (cont.)

Unit No. 02 Salmon Slough RB	Overall Unit Rating	Total Unit Miles						
RD2089	U	1.35						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Earthen Levee</i>								
Vegetation	1.40	0.13	1.92	142.69%	0.05			
Trim / Thin Trees	0.01	0.01	0.05	3.72%				
Encroachments	0.02		0.02	1.49%	0.03	0.08		
Animal Control	0.08	0.16	0.72	53.51%				
Slope Stability	0.01		0.01	0.74%				
Erosion / Bank Caving	0.01		0.01	0.74%				
Crown Surface / Depressions / Rutting	0.02	0.01	0.06	4.46%				
<i>Supplemental</i>								
DWR UCIP Field Study					0.01			
2017 Storm Damage	0.01		0.01	0.74%				
<i>Unit Totals:</i>	1.56	0.31	2.80	208.09%	0.09	0.08	0.00	0.00

**Flood Control Project Maintenance
Levee Inspections**
LMA District Cover Sheet
Fall 2018 Levee Inspection Results

Reclamation District No. 2089 Stark

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
† Overall LMA Rating (Fall Only)			U	

** Non-receipt of Summer or Winter Inspection
Reports may effect overall annual rating.

† SPRING INSPECTIONS: Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments

**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Fall 2018 Levee Inspection Results

Reclamation District No. 2089 Stark

Waterway			Bank	Unit Miles
Unit No. 01 Old River			Right	1.51
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			U	
Date of Inspection	5/15/2018 - 5/15/2018		10/31/2018 - 10/31/2018	
DWR Inspector	Zach Jojola		Richard Willoughby	
Accompanied By	Luz Dial DWR		Luz Dial DWR	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start		Rating **	A	Issue No.	4
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Operations & Maintenance Manuals			°	°
				°	°
DWR ID	DWR_RD2089_01_s _ 2013_4				
Comment Code					
Inspector Comment					
The O&M Manual is available at the LMA's office.					

No Photos

LM Start		Rating **	A	Issue No.	15
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Emergency Supplies & Equipment			°	°
				°	°
DWR ID	DWR_RD2089_01_s _ 2013_15				
Comment Code					
Inspector Comment					
The LMA has flood fighting supplies on-site.					

No Photos

LM Start		Rating **	M	Issue No.	34
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Flood Preparedness & Training			°	°
				°	°
DWR ID	DWR_RD2089_01_s _ 2013_34				
Comment Code					
Inspector Comment					
The LMA has not attended a flood fight training class in the past few years. They do have an emergency plan.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.00	Rating **	M	Issue No.	9
LM End	0.38	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			37.811681 °	37.809755 °
				-121.384930 °	-121.391520 °
DWR ID	DWR_RD2089_01_s_2012_9				
Comment Code					
DT : Ditch					
Inspector Comment					
05/24/2011 Photo added of Ag ditch.					

Photo 1 of 1 : FA_2018_RD2089_316_9_20180906_00009.jpg



05/24/2011 Ditch flows parallel with the utility line shown in the photo.

LM Start	0.00	Rating **	U	Issue No.	24
LM End	1.51	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			°	37.806634°
				°	-121.407885°
DWR ID	DWR_RD2089_01_f_2018_24				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_316_24_20181101_00053.jpg



Typical view of landward slope. (Fall 2018)

LM Start	0.02	Rating **	U	Issue No.	16
LM End	1.51	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.811547 °	37.806633 °
				-121.385268 °	-121.407885 °
DWR ID	DWR_RD2089_01_f_2018_16				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_316_16_20181101_00054.jpg



Looking at typical view of waterward slope. (Fall 2018)

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
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Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.24	Rating **	M	Issue No.	940
LM End	0.24	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.810412 °	37.810412 °
				-121.389115 °	-121.389115 °
DWR ID	DWR_RD2089_01_s_2012_940				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Arundo has been trimmed back from the crown but still remains as an obstruction to the slope and obstructs visibility, needs to be removed.					

Photo 1 of 1 : FA_2018_RD2089_316_940_20180906_00037.jpg



The LMA is actively trying to remove the vegetation on the landside levee slope and toe.

LM Start	0.26	Rating **	M	Issue No.	13
LM End	0.27	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810300 °	37.810300 °
				-121.389300 °	-121.389500 °
DWR ID	DWR_RD2089_01_f_2017_13				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:513					
Site Designation:LMA-419					
Repair Type: Erosion					
Rating:Area of Concern					
Field Date:8/14/2017					
Notes: Small erosion at toe.					

Photo 1 of 2 : LEVAL_FA_2018_513_4443.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
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Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.26	Rating **	M	Issue No.	13 (cont)
LM End	0.27	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810300 °	37.810300 °
				-121.389300 °	-121.389500 °
DWR ID	DWR_RD2089_01_f _ 2017_13				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:513					
Site Designation:LMA-419					
Repair Type: Erosion					
Rating:Area of Concern					
Field Date:8/14/2017					
Notes: Small erosion at toe.					

Photo 2 of 2 : LEVAL_FA_2018_513_4448.jpg



LM Start	0.30	Rating **	U	Issue No.	23
LM End	0.32	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.810138 °	37.810043 °
				-121.390020 °	-121.390343 °
DWR ID	DWR_RD2089_01_f_2018_23				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Berryvines and wildrose on landward shoulder and slope blocking view.					

Photo 1 of 1 : FA_2018_RD2089_316_23_20181101_00057.jpg



Looking at dense berryvines and wildroses on landward shoulder and slope. (Fall 2018)

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.33	Rating **	U	Issue No.	19
LM End	0.33	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.810002°	37.810002°
				-121.390674°	-121.390674°
DWR ID	DWR_RD2089_01_s_2012_19				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Arundo is thick and blocks visibility and access.					

LM Start	0.33	Rating **	U	Issue No.	19 (cont)
LM End	0.33	Issue Type +	Ma	Location *	LS

Photo 1 of 2 : FA_2018_RD2089_316_19_20180906_00015.jpg



View of the arundo back on the landside levee slope. Fall 2016

Photo 2 of 2 : FA_2018_RD2089_316_19_20180906_00016.jpg



Arundo was trimmed back from the road and needs to be maintained so that it does not obstruct visibility and access to the landside toe.

LM Start	0.41	Rating **	U	Issue No.	28
LM End	0.46	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.809593 °	37.809507 °
				-121.391963 °	-121.392907 °
DWR ID	DWR_RD2089_01_s_2012_28				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Vegetation is too thick to allow access and visibility. Some thick patches of shrubs remain and continue to block visibility and access.					

Photo 1 of 2 : FA_2018_RD2089_316_28_20180906_00025.jpg



05/24/2011 Photo shows thick dead vegetation and continuation of trees in area that are preventing access and visibility of landside slope and toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.41	Rating **	U	Issue No.	28 (cont)	
LM End	0.46	Issue Type +	Ma	Location *	LS	
Category	Earthen Levee			GPS Latitude/Longitude		
				Start	End	
Item	Vegetation			37.809593 °	37.809507 °	
				-121.391963 °	-121.392907 °	
DWR ID	DWR_RD2089_01_s_2012_28					
Comment Code						
V2 : Remove the wild growth other than native grasses from the levee slopes.						
Inspector Comment						
Vegetation is too thick to allow access and visibility. Some thick patches of shrubs remain and continue to block visibility and access.						

Photo 2 of 2 : FA_2018_RD2089_316_28_20181101_00058.jpg



Looking at dense veg on landward slope. (Fall 2018)

LM Start	0.46	Rating **	M	Issue No.	941	
LM End	0.46	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.809501 °	37.809501 °	
				-121.392798 °	-121.392798 °	
DWR ID	23042					
Comment Code						
Inspector Comment						
FS_ID:21635 DS_ID:23042 EP_NO: 5641 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - damaged siphon breaker.- most of the pipe on landside exposed on levee slope. FIELD_STRUCT_DESC: 20-inch steel irrigation discharge pipe and electrical conduit through the levee, 5.8 feet below the crown. Pump on a pile structure in the stream. Siphon breaker on the landside (LS) slope. (Plans to replace a rusted out irrigation discharge pipe through the levee authorized under Permit No. 5641, 1967 - Theodore Stark). [Additional Reference(s): DWR Levee Log, 1991. USACE San Joaquin O&M Manual 8, 1968, (HLM 0.46), 21-inch pipe referenced]. FS Date: 9/12/2013						

Photo 1 of 3 : UCIP_FA_2018_21635_36742.jpg



WS view: walkway to pump platform and pump on steel piling structure in the channel.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.46	Rating **	M	Issue No.	941 (cont)	
LM End	0.46	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.809501 °	37.809501 °	
				-121.392798 °	-121.392798 °	
DWR ID	23042					
Comment Code						
Inspector Comment						
FS_ID:21635 DS_ID:23042 EP_NO: 5641 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - damaged siphon breaker.- most of the pipe on landside exposed on levee slope. FIELD_STRUCT_DESC: 20-inch steel irrigation discharge pipe and electrical conduit through the levee, 5.8 feet below the crown. Pump on a pile structure in the stream. Siphon breaker on the landside (LS) slope. (Plans to replace a rusted out irrigation discharge pipe through the levee authorized under Permit No. 5641, 1967 - Theodore Stark). [Additional Reference(s): DWR Levee Log, 1991. USACE San Joaquin O&M Manual 8, 1968, (HLM 0.46), 21-inch pipe referenced]. FS Date: 9/12/2013						

LM Start	0.46	Rating **	M	Issue No.	941 (cont)
LM End	0.46	Issue Type +	En	Location *	

Photo 2 of 3 : UCIP_FA_2018_21635_36741.jpg



WS view: steel walkway, electric control box, and pump on steel piling structure in the channel.

Photo 3 of 3 : UCIP_FA_2018_21635_36740.jpg



LS view: overview of exposed steel pipe (right) on levee slope and service pole (left).

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.54	Rating **	M	Issue No.	14
LM End	0.54	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.810087 °	37.810087 °
				-121.394200 °	-121.394200 °
DWR ID	DWR_RD2089_01_s_2012_14				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Minor depressions will cause ponding.					

Photo 1 of 1 : FA_2018_RD2089_316_14_20180906_00013.jpg



11/10/2011 Depressions in crown.

LM Start	0.67	Rating **	A/W	Issue No.	5
LM End	0.67	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.809780 °	37.809780 °
				-121.396230 °	-121.396230 °
DWR ID	RD2089U01RM29.61				
Comment Code					
Inspector Comment					
09/13/2017: No significant change observed.					
07/25/2016: No significant change observed.					
06/25/2015: No significant change observed.					
07/02/2014: No significant change observed.					
08/13/2013: No significant change observed.					
08/07/2012: The site has been visited by boat survey. No significant change observed					
08/23/2011: The 5-foot vertical scarp shows no significant change from the last year inspection. No new erosion activities observed. Dense white willow trees on site.					
09/07/2010: It was difficult to view the erosion due to the thick Willow thickets and other vegetation at the water line. At the time of the inspection, there were no signs of repair on site. As noted during the last survey, there is a 5-foot vertical scarp along the lower slope that may be subjected to high flow velocities.					
08/05/2010: Recommended for repair, per CLRO; "Erosion of this site may be subjective to rapid rates of erosion."					
09/28/2009: No major change observed; 5-foot vertical scarp is immediately downstream of where berm has tapered; site is recommended as local maintenance issue, per CLRO CES Evaluation 2008 Report; Site # is the same as RM29.6, LM0.60; previously rated "U".					
11/05/2008: No change observed; rodent holes on lower slope; wide levee crown. [2017 Site ID:RD2089U01RM29.61]					

Photo 1 of 2 : FA_2018_RD2089_316_5_20180906_00007.jpg



Front view of the site. The scarp erosion is at the levee slope but is not visible due to the dense vegetation at the site.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.67	Rating **	A/W	Issue No.	5 (cont)	
LM End	0.67	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR Erosion Survey			37.809780 °	37.809780 °	
				-121.396230 °	-121.396230 °	
DWR ID	RD2089U01RM29.61					
Comment Code						
Inspector Comment						
09/13/2017: No significant change observed.						
07/25/2016: No significant change observed.						
06/25/2015: No significant change observed.						
07/02/2014: No significant change observed.						
08/13/2013: No significant change observed.						
08/07/2012: The site has been visited by boat survey. No significant change observed						
08/23/2011: The 5-foot vertical scarp shows no significant change from the last year inspection. No new erosion activities observed. Dense white willow trees on site.						
09/07/2010: It was difficult to view the erosion due to the thick Willow thickets and other vegetation at the water line. At the time of the inspection, there were no signs of repair on site. As noted during the last survey, there is a 5-foot vertical scarp along the lower slope that may be subjected to high flow velocities.						
08/05/2010: Recommended for repair, per CLRO; "Erosion of this site may be subjective to rapid rates of erosion."						
09/28/2009: No major change observed; 5-foot vertical scarp is immediately downstream of where berm has tapered; site is recommended as local maintenance issue, per CLRO CES Evaluation 2008 Report; Site # is the same as RM29.6, LM0.60; previously rated "U".						
11/05/2008: No change observed; rodent holes on lower slope; wide levee crown. [2017 Site ID:RD2089U01RM29.61]						

Photo 2 of 2 : FA_2018_RD2089_316_5_20180906_00008.jpg



Front view of the site. Note the very dense white willow thickets on site.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

A photograph of a large, calm body of water, likely a reservoir or lake, surrounded by dense green trees and vegetation. In the foreground, there is a grassy bank with some dry, yellowish grass and a small, light-colored structure or building partially visible on the left.

* Location	** Rating	+ Issue Type
LS : Land Side N/A : Not Applicable	A : Acceptable N : Not Inspected/Rated	Ma : Maintenance Deficiency
WS : Water Side	M : Minimally Acceptable C : Corrected	Ob : Design & System Obsolescence
CR : Crown	U : Unacceptable A/W : Acceptable but Monitor & Maintain	En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.67	Rating **	A/W	Issue No.	20 (cont)
LM End	0.68	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.809700 °	37.809700 °
				-121.396300 °	-121.396400 °
DWR ID	DWR_RD2089_01_f _ 2017_20				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:512					
Site Designation:LMA-418					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/14/2017					
Notes: deep erosion more than half way up slope.					

Photo 3 of 3 : LEVAL_FA_2018_512_4464.jpg



LM Start	0.80	Rating **	M	Issue No.	22
LM End	0.80	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			37.808466 °	37.808466 °
				-121.397847 °	-121.397847 °
DWR ID	DWR_RD2089_01_f_2016_22				
Comment Code					
S2 : Repair the levee slope damaged by foot traffic and prevent access where possible.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_316_22_20180906_00022.jpg



View of the footpath on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.80	Rating **	M	Issue No.	942	
LM End	0.80	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.808387 °	37.808387 °	
				-121.397843 °	-121.397843 °	
DWR ID	23043					
Comment Code						
Inspector Comment						
FS_ID:21587 DS_ID:23043 EP_NO: 3385 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - powerline on landside.- electric control box on waterside.- waterside slope erosion under pump platform. FIELD_STRUCT_DESC: 16-inch irrigation discharge pipe of an unknown material through the levee, 5.5 feet below the crown. Two cutoff walls. Slant pump in a pump house on the waterside (WS) slope. Siphon breaker on the landside (LS) slope. (Plans for installation of a pumping plant on the riverbank and a pipe that crosses the levee authorized under Permit No. 3385, 1960 - Eleanor M. Lawrence). [Additional Reference(s): DWR Levee Log, 1991. USACE San Joaquin O&M Manual 8, 1968, (HLM 0.81)]. FS Date: 9/12/2013						

LM Start	0.80	Rating **	M	Issue No.	942 (cont)
LM End	0.80	Issue Type +	En	Location *	

Photo 1 of 3 : UCIP_FA_2018_21587_36635.jpg



WS view: slant pump on wooden platform. Oil leaks from the pump.

Photo 2 of 3 : UCIP_FA_2018_21587_36634.jpg



WS view: soil erosion under pump platform. Needs mitigation measures to stop erosion.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

View of the vertical cut along the landside levee toe.

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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.81	Rating **	U	Issue No.	17 (cont)	
LM End	0.94	Issue Type +	En	Location *	LS	
Category	Earthen Levee			GPS Latitude/Longitude		
				Start		End
Item	Encroachments			37.808319 °	37.806453 °	
				-121.397881 °	-121.397755 °	
DWR ID	DWR_RD2089_01_f_2014_17					
Comment Code						
AT : Agricultural tilling						
Inspector Comment						
Landside levee toe cut due to farming.						

Photo 2 of 2 : FA_2018_RD2089_316_17_20181101_00059.jpg



View of vertical cut along the landward toe. (Fall 2018)

LM Start	0.94	Rating **	U	Issue No.	33
LM End	0.94	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.806397 °	37.806397 °
				-121.397758 °	-121.397758 °
DWR ID	DWR_RD2089_01_s_2012_33				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Arundo on waterside impedes visibility and access to waterside slope.					

Photo 1 of 2 : FA_2018_RD2089_316_33_20181101_00061.jpg



Re-establishing of Arundo on waterward slope. (Fall 2018)

LM Start	0.94	Rating **	U	Issue No.	33 (cont)
LM End	0.94	Issue Type +	Ma	Location *	WS

Photo 2 of 2 : FA_2018_RD2089_316_33_20180906_00030.jpg



Arundo was trimmed back and needs to be maintained to allow visibility and access.

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.16	Rating **	A/W	Issue No.	30
LM End	1.18	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.805600 °	37.805600 °
				-121.401700 °	-121.401900 °
DWR ID	DWR_RD2089_01_f_2017_30				

Comment Code

Inspector Comment

Levee Evaluation Comments

Description: Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.

Site ID No: 511

Site Designation: LMA-417

Repair Type: Erosion

Rating: Critical

Field Date: 8/16/2017

Notes: Narrow levee with over steep slope

LM Start	1.16	Rating **	A/W	Issue No.	30 (cont)
LM End	1.18	Issue Type +	Ma	Location *	WS

Photo 1 of 3 : LEVAL_FA_2018_511_4301.jpg



Photo 2 of 3 : LEVAL_FA_2018_511_4303.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.16	Rating **	A/W	Issue No.	30 (cont)
LM End	1.18	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.805600 °	37.805600 °
				-121.401700 °	-121.401900 °
DWR ID	DWR_RD2089_01_f _ 2017_30				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:511					
Site Designation:LMA-417					
Repair Type: Erosion					
Rating:Critical					
Field Date:8/16/2017					
Notes: Narrow levee with over steep slope					

Photo 3 of 3 : LEVAL_FA_2018_511_4305.jpg



LM Start	1.17	Rating **	A/W	Issue No.	3
LM End	1.17	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.805523 °	37.805523 °
				-121.401718 °	-121.401718 °
DWR ID	RD2089U01RM29.1				
Comment Code					
Inspector Comment					
09/13/2017: The erosion is at the upstream of a small tree, inside of a slight river bend. [2017 Site ID:RD2089U01RM29.1]					

Photo 1 of 3 : FA_2018_RD2089_316_3_20180906_00004.jpg



Front view of the erosion. Note the trees next to the erosion site.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.17	Rating **	A/W	Issue No.	3 (cont)	
LM End	1.17	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR Erosion Survey			37.805523 °	37.805523 °	
				-121.401718 °	-121.401718 °	
DWR ID	RD2089U01RM29.1					
Comment Code						
Inspector Comment						
09/13/2017: The erosion is at the upstream of a small tree, inside of a slight river bend. [2017 Site ID:RD2089U01RM29.1]						

Photo 2 of 3 : FA_2018_RD2089_316_3_20180906_00005.jpg



Front view of the erosion.

LM Start	1.17	Rating **	A/W	Issue No.	3 (cont)
LM End	1.17	Issue Type +	Ma	Location *	WS

Photo 3 of 3 : FA_2018_RD2089_316_3_20180906_00006.jpg



Front view of the erosion.

LM Start	1.19	Rating **	A/W	Issue No.	25
LM End	1.19	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.805663 °	37.805663 °
				-121.402151 °	-121.402151 °
DWR ID	DWR_RD2089_01_s_2016_25				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
Arrundo was trimmed back but may creep up the waterside levee slope if not maintained.					

Photo 1 of 1 : FA_2018_RD2089_316_25_20180906_00023.jpg



View of the Arrundo on the waterside slope obstructing visibility. LMA is actively trying to remove the wild growth.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.22	Rating **	M	Issue No.	43
LM End	1.22	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.805735 °	37.805735 °
				-121.402614 °	-121.402614 °
DWR ID	DWR_RD2089_01_s_2012_43				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Depression needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_43_20180906_00032.jpg



11/10/2011 Depression in roadway.

LM Start	1.23	Rating **	M	Issue No.	2
LM End	1.24	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.805580 °	37.805580 °
				-121.403010 °	-121.403010 °
DWR ID	RD2089U01RM29.04				
Comment Code					
Inspector Comment					
09/13/2017: No significant change observed. More vegetation observed at the site.					
09/16/2016: The river was not navigable near the site due to the dense water grass, so the site was visited by land survey. No significant change observed.					
06/25/2015: No significant change observed.					
07/02/2014: No significant change observed.					
08/13/2013: The erosion is around a tree at the levee toe. Dense vegetation is visible. [2017 Site ID:RD2089U01RM29.04]					

Photo 1 of 2 : FA_2018_RD2089_316_2_20180906_00002.jpg



Front view of the erosion.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.23	Rating **	M	Issue No.	2 (cont)	
LM End	1.24	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR Erosion Survey			37.805580 °		37.805580 °
				-121.403010 °		-121.403010 °
DWR ID	RD2089U01RM29.04					
Comment Code						
Inspector Comment						
09/13/2017: No significant change observed. More vegetation observed at the site.						
09/16/2016: The river was not navigable near the site due to the dense water grass, so the site was visited by land survey. No significant change observed.						
06/25/2015: No significant change observed.						
07/02/2014: No significant change observed.						
08/13/2013: The erosion is around a tree at the levee toe. Dense vegetation is visible. [2017 Site ID:RD2089U01RM29.04]						

Photo 2 of 2 : FA_2018_RD2089_316_2_20180906_00003.jpg



Close view of the erosion.

LM Start	1.23	Rating **	M	Issue No.	44
LM End	1.23	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.805801 °	37.805801 °
				-121.402913 °	-121.402913 °
DWR ID	DWR_RD2089_01_s_2012_44				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Depression in roadway needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_44_20180906_00033.jpg



11/10/2011 Roadway depression.

*** Location**
LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**
A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type
Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.34	Rating **	M	Issue No.	45
LM End	1.34	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.806128 °	37.806128 °
				-121.404890 °	-121.404890 °
DWR ID	DWR_RD2089_01_s _ 2012_45				
Comment Code					
C3 : Add appropriate gravel or road base. Grade and compact.					
Inspector Comment					
11/10/2011 Depression needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_45_20180906_00034.jpg



11/10/2011 Roadway depression.

LM Start	1.40	Rating **	M	Issue No.	47
LM End	1.40	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.806268 °	37.806268 °
				-121.405874 °	-121.405874 °
DWR ID	DWR_RD2089_01_s _ 2012_47				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
11/10/2011 No rodents visible, but active burrows are present.					

Photo 1 of 1 : FA_2018_RD2089_316_47_20180906_00035.jpg



11/10/2011 Active rodent burrow on landside slope.

* Location
LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

** Rating
A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type
Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.41	Rating **	M	Issue No.	943	
LM End	1.41	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.806323 °	37.806323 °	
				-121.406149 °	-121.406149 °	
DWR ID	24667					
Comment Code						
Inspector Comment						
FS_ID:53379						
DS_ID:24667						
EP_NO: N/A						
Repair Type: Non-Urgent						
Crossing Status: Found						
UCIP Comments: 10/12/2018 Same as last inspection. Down grading to Non-Urgent due to abandonment and no visual threat to pipe or levee integrity (D. Sanoski - DWR UCIP).11/15/2016 Same as last inspection. (K. Fazel - UCIP)09/12/2013:- if abandoned, it needs proper abandonment. Pipe damaged and open on both ends. (P. Amatya - DWR)						
FIELD_STRUCT_DESC: *ABANDONED* 6-inch polyvinyl chloride (PVC) irrigation discharge pipe through the levee, 2 feet below the crown. Pipe was installed due to pump failure, but never removed. Field study discovered pipe.						
FS Date: 10/12/2018 5:16:00 PM						

LM Start	1.41	Rating **	M	Issue No.	943 (cont)
LM End	1.41	Issue Type +	En	Location *	

Photo 1 of 3 : UCIP_FA_2018_53379_36611.jpg



WS view: 6-inch pvc pipe on levee slope. Pipe end open and damaged.

Photo 2 of 3 : UCIP_FA_2018_53379_36610.jpg



WS view: inside view of pvc pipe. Sediments found inside the pipe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.41	Rating **	M	Issue No.	943 (cont)	
LM End	1.41	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.806323 °	37.806323 °	
				-121.406149 °	-121.406149 °	
DWR ID	24667					
Comment Code						
Inspector Comment						
FS_ID:53379						
DS_ID:24667						
EP_NO: N/A						
Repair Type: Non-Urgent						
Crossing Status: Found						
UCIP Comments: 10/12/2018 Same as last inspection. Down grading to Non-Urgent due to abandonment and no visual threat to pipe or levee integrity (D. Sanoski - DWR UCIP).11/15/2016 Same as last inspection. (K. Fazel - UCIP)09/12/2013:- if abandoned, it needs proper abandonment. Pipe damaged and open on both ends. (P. Amatya - DWR)						
FIELD_STRUCT_DESC: *ABANDONED* 6-inch polyvinyl chloride (PVC) irrigation discharge pipe through the levee, 2 feet below the crown. Pipe was installed due to pump failure, but never removed. Field study discovered pipe.						
FS Date: 10/12/2018 5:16:00 PM						

Photo 3 of 3 : UCIP_FA_2018_53379_36609.jpg



LS view: 6-inch pvc pipe on levee slope. Pipe end open.

LM Start	1.41	Rating **	M	Issue No.	944	
LM End	1.41	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			37.806323°	37.806323°	
				-121.406155°	-121.406155°	
DWR ID	23045					
Comment Code						
Inspector Comment						
FS_ID:21585 DS_ID:23045 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - siphon breaker needs repair. FIELD_STRUCT_DESC: 10-inch steel drainage discharge pipe through the levee, 2.4 feet below the crown. Pump in a drainage ditch on the landside (LS). Siphon breaker on the waterside (WS) shoulder. [Additional Reference(s): DWR Levee Log, 1991]. FS Date: 9/12/2013						

Photo 1 of 3 : UCIP_FA_2018_21585_36624.jpg



WS view: exposed steel pipe on levee slope. A pvc pipe on left.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.41	Rating **	M	Issue No.	944 (cont)	
LM End	1.41	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			37.806323 °	37.806323 °	
				-121.406155 °	-121.406155 °	
DWR ID	23045					
Comment Code						
Inspector Comment						
FS_ID:21585 DS_ID:23045 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - siphon breaker needs repair. FIELD_STRUCT_DESC: 10-inch steel drainage discharge pipe through the levee, 2.4 feet below the crown. Pump in a drainage ditch on the landside (LS). Siphon breaker on the waterside (WS) shoulder. [Additional Reference(s): DWR Levee Log, 1991]. FS Date: 9/12/2013						

Photo 2 of 3 : UCIP_FA_2018_21585_36623.jpg



WS view: exposed steel pipe with siphon breaker. Looks siphon breaker needs repair.

LM Start	1.41	Rating **	M	Issue No.	944 (cont)
LM End	1.41	Issue Type +	Ma	Location *	

Photo 3 of 3 : UCIP_FA_2018_21585_36622.jpg



LS view: exposed steel pipe on levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.44	Rating **	M	Issue No.	49
LM End	1.44	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.806383 °	37.806383 °
				-121.406599 °	-121.406599 °
DWR ID	DWR_RD2089_01_s_2012_49				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Deep burrow on waterside needs to be filled.					

Photo 1 of 1 : FA_2018_RD2089_316_49_20180906_00036.jpg



11/10/2011 Deep burrow on waterside.

LM Start	1.48	Rating **	M	Issue No.	945	
LM End	1.48	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.806520 °	37.806520 °	
				-121.407392 °	-121.407392 °	
DWR ID	23046					
Comment Code						
Inspector Comment						
FS_ID:53182 DS_ID:23046 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: 10/12/2018 Same as last inspection; downgrading to Non-Urgent due to no visual pipe or levee threat (D. Sanoski - DWR UCIP).11/15/2016 Pipe found on WS only. Same as last inspection. (K. Fazel - UCIP)06/25/2015 Crossing appears abandoned; if so, should be done so properly. Pipe open on WS. Holes and cracks visible on pipe. (K. Fazel - UCIP) FIELD_STRUCT_DESC: *ABANDONED* 12-inch reinforced concrete pipe of an unknown purpose possibly through the levee, approximately 8 feet below the crown. Smaller steel pipe sleeved through the 12-inch pipe with annular space grouted. Pipe does not cross channel and may not cross levee. May be related to the gas line crossing with DS ID 25121. Discovered from boat on 2015 DWR Erosion Survey. FS Date: 10/12/2018 5:22:43 PM						

Photo 1 of 3 : UCIP_FA_2018_53182_74506.jpg



View up WS slope from water. Pipe does not cross channel.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.51	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.48	Rating **	M	Issue No.	945 (cont)	
LM End	1.48	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.806520°	37.806520°	
				-121.407392°	-121.407392°	
DWR ID	23046					
Comment Code						
Inspector Comment						
FS_ID:53182 DS_ID:23046 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: 10/12/2018 Same as last inspection; downgrading to Non-Urgent due to no visual pipe or levee threat (D. Sanoski - DWR UCIP).11/15/2016 Pipe found on WS only. Same as last inspection. (K. Fazel - UCIP)06/25/2015 Crossing appears abandoned; if so, should be done so properly. Pipe open on WS. Holes and cracks visible on pipe. (K. Fazel - UCIP) FIELD_STRUCT_DESC: *ABANDONED* 12-inch reinforced concrete pipe of an unknown purpose possibly through the levee, approximately 8 feet below the crown. Smaller steel pipe sleeved through the 12-inch pipe with annular space grouted. Pipe does not cross channel and may not cross levee. May be related to the gas line crossing with DS ID 25121. Discovered from boat on 2015 DWR Erosion Survey. FS Date: 10/12/2018 5:22:43 PM						

LM Start	1.48	Rating **	M	Issue No.	945 (cont)
LM End	1.48	Issue Type +	En	Location *	

Photo 2 of 3 : UCIP_FA_2018_53182_74508.jpg



Gasline marker (for crossing with DS ID 25121) appr. 100 ft west of crossing.

Photo 3 of 3 : UCIP_FA_2018_53182_76207.jpg



WS view of pipe

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Fall 2018 Levee Inspection Results

Reclamation District No. 2089 Stark

Waterway			Bank	Unit Miles
Unit No. 02 Salmon Slough			Right	1.35
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			U	
Date of Inspection	5/15/2018 - 5/15/2018		10/31/2018 - 10/31/2018	
DWR Inspector	Zach Jojola		Richard Willoughby	
Accompanied By	Luz Dial DWR		Luz Dial DWR	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.01	Rating **	U	Issue No.	20
LM End	0.11	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.806762 °	37.807958 °
				-121.408077 °	-121.409065 °
DWR ID	DWR_RD2089_02_s _ 2016_20				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					

Photo 1 of 2 : FA_2018_RD2089_317_20_20180906_00021.jpg



View of the vegetation on the landside levee slope.

LM Start	0.01	Rating **	U	Issue No.	20 (cont)
LM End	0.11	Issue Type +	Ma	Location *	LS

Photo 2 of 2 : FA_2018_RD2089_317_20_20181101_00064.jpg



View of dense veg on landward slope. (Fall 2018)

LM Start	0.06	Rating **	U	Issue No.	58
LM End	0.06	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.807306 °	37.807306 °
				-121.408692 °	-121.408692 °
DWR ID	DWR_RD2089_02_s_2017_58				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					
Trim back the shrub to allow access and visibility.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.07	Rating **	U	Issue No.	4
LM End	0.07	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.807375 °	37.807375 °
				-121.408605 °	-121.408605 °
DWR ID	DWR_RD2089_02_s_2012_4				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					
Thick brush may include some elderberries.					

No Photos

LM Start	0.16	Rating **	U	Issue No.	48
LM End	0.16	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.808583 °	37.808583 °
				-121.409432 °	-121.409432 °
DWR ID	DWR_RD2089_02_f_2013_48				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_48_20180906_00044.jpg



View of the rodent burrow on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.20	Rating **	M	Issue No.	46
LM End	0.21	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.809100 °	37.809200 °
				-121.409800 °	-121.409900 °
DWR ID	DWR_RD2089_02_f_2017_46				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:509					
Site Designation:LMA-415					
Repair Type: Erosion					
Rating:Area of Concern					
Field Date:8/16/2017					
Notes: Displaced riprap at toe.					

Photo 1 of 3 : LEVAL_FA_2018_509_4314.jpg



LM Start	0.20	Rating **	M	Issue No.	46 (cont)
LM End	0.21	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_FA_2018_509_4315.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.20	Rating **	M	Issue No.	46 (cont)
LM End	0.21	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.809100°	37.809200°
				-121.409800°	-121.409900°
DWR ID	DWR_RD2089_02_f_2017_46				
Comment Code					
Inspector Comment					
<p>Levee Evaluation Comments</p> <p>Description: Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.</p> <p>Site ID No: 509</p> <p>Site Designation: LMA-415</p> <p>Repair Type: Erosion</p> <p>Rating: Area of Concern</p> <p>Field Date: 8/16/2017</p> <p>Notes: Displaced riprap at toe.</p>					

Photo 3 of 3 : LEVAL_FA_2018_509_4317.jpg



LM Start	0.21	Rating **	M	Issue No.	49
LM End	0.21	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.809148°	37.809148°
				-121.409897°	-121.409897°
DWR ID	DWR_RD2089_02_s_2018_49				
Comment Code					
Inspector Comment					
<p>A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.</p>					

Photo 1 of 1 : FA_2018_RD2089_317_49_20180906_00045.jpg



View of the multiple rodent burrows on the landside levee hinge and slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.26	Rating **	M	Issue No.	24
LM End	0.26	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.809717 °	37.809717 °
				-121.410511 °	-121.410511 °
DWR ID	DWR_RD2089_02_s_2012_24				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					
Ground squirrel sighted and active burrowing in area.					

Photo 1 of 1 : FA_2018_RD2089_317_24_20180906_00023.jpg



05/24/2011 Active burrows, ground squirrel sighted in area.

LM Start	0.28	Rating **	U	Issue No.	52
LM End	0.30	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			37.809899 °	37.809997 °
				-121.410888 °	-121.411298 °
DWR ID	DWR_RD2089_02_f_2013_52				
Comment Code					
PR : Prunings					
Inspector Comment					
Remove prunings and other debris from the levee toe.					

Photo 1 of 1 : FA_2018_RD2089_317_52_20180906_00050.jpg



View of the tree branches on the landside levee toe obstructing access.

LM Start	0.28	Rating **	U	Issue No.	51
LM End	0.28	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.809899 °	37.809899 °
				-121.410889 °	-121.410889 °
DWR ID	DWR_RD2089_02_f_2013_51				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_51_20180906_00049.jpg



View of the rodent burrow on the landside levee toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.30	Rating **	U	Issue No.	53
LM End	0.31	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.809977 °	37.810022 °
				-121.411189 °	-121.411387 °
DWR ID	DWR_RD2089_02_f_2013_53				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					
Exterminating rodents and grouting the burrows recommended.					

LM Start	0.30	Rating **	U	Issue No.	53 (cont)
LM End	0.31	Issue Type +	Ma	Location *	LS

Photo 1 of 3 : FA_2018_RD2089_317_53_20180906_00051.jpg



View of the multiple rodent burrows on the landside levee slope.

Photo 2 of 3 : FA_2018_RD2089_317_53_20180906_00052.jpg



View of the rodent burrow on the landside levee slope.

LM Start	0.30	Rating **	U	Issue No.	53 (cont)
LM End	0.31	Issue Type +	Ma	Location *	LS

Photo 3 of 3 : FA_2018_RD2089_317_53_20180906_00053.jpg



Another view of the multiple rodent burrows on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.32	Rating **	A/W	Issue No.	47
LM End	0.57	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810020°	37.811810°
				-121.411550°	-121.415390°
DWR ID	DWR_RD2089_02_f_2017_47				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:					
Site ID No:109					
Site Designation:335-103					
Repair Type: Erosion					
Rating:Area of Concern					
Field Date:6/7/2017					
Notes: vegetation too dense for evaluation					

LM Start	0.32	Rating **	A/W	Issue No.	47 (cont)
LM End	0.57	Issue Type +	Ma	Location *	

Photo 1 of 3 : LEVAL_FA_2018_109_1297.jpg



Photo 2 of 3 : LEVAL_FA_2018_109_1298.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.32	Rating **	A/W	Issue No.	47 (cont)	
LM End	0.57	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	2017 Storm Damage			37.810020	°	37.811810
				-121.411550	°	-121.415390
DWR ID	DWR_RD2089_02_f_2017_47					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:						
Site ID No:109						
Site Designation:335-103						
Repair Type: Erosion						
Rating:Area of Concern						
Field Date:6/7/2017						
Notes: vegetation too dense for evaluation						

Photo 3 of 3 : LEVAL_FA_2018_109_1300.jpg



LM Start	0.34	Rating **	M	Issue No.	55
LM End	0.34	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.810052°	37.810052°
				-121.411966°	-121.411966°
DWR ID	DWR_RD2089_02_s_2017_55				
Comment Code					
T1 : Trim trees to at least five feet above ground level.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_55_20180906_00055.jpg



View of the overgrown tree on the levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

View of gate across levee crown.

05/24/2011 Active rodent burrow.

View of depression greater than six inches on levee crown. (Fall 2018)

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.39	Rating **	A/W	Issue No.	50
LM End	0.41	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810150 °	37.810270 °
				-121.412930 °	-121.413240 °
DWR ID	DWR_RD2089_02_f _ 2017_50				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:508					
Site Designation:LMA-414					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/16/2017					
Notes: Large erosion around tree with a 12' vertical cut.					

Photo 1 of 3 : LEVAL_FA_2018_508_4321.jpg



LM Start	0.39	Rating **	A/W	Issue No.	50 (cont)
LM End	0.41	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_FA_2018_508_4323.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.39	Rating **	A/W	Issue No.	50 (cont)
LM End	0.41	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.810150 °	37.810270 °
				-121.412930 °	-121.413240 °
DWR ID	DWR_RD2089_02_f _ 2017_50				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:508					
Site Designation:LMA-414					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/16/2017					
Notes: Large erosion around tree with a 12' vertical cut.					

Photo 3 of 3 : LEVAL_FA_2018_508_4325.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.40	Rating **	A/W	Issue No.	1
LM End	0.41	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR Erosion Survey			37.809960 °	37.809960 °
				-121.413200 °	-121.413200 °
DWR ID	RD2089U02RM28.35				
Comment Code					
Inspector Comment					
09/13/2017: No significant change observed.					
09/26/2016: The erosion site was visited by land survey instead of water surface survey due to the dense water grass in the river this year. No significant change observed.					
06/25/2015: No significant change observed.					
07/02/2014: No significant change observed.					
08/13/2013: No significant change observed.					
08/07/2012: The site has been visited by boat survey. No significant change observed.					
08/23/2011: No significant change observed on site.					
09/07/2010: Site consists of a jutting rip rap that has created an eddy, scouring the levee slope. Most sections of the toe and lower slope are lined with rip rap. However, the rip rap is sloughing on the mid slope and at the toe, exposing the underlying soils and tree roots. The remaining revetment is no longer adequately protecting the slope. There are 3 Sycamore trees at the toe with exposed tree roots.					
08/05/2010: Recommended for repair, per CLRO.					
09/28/2009: Pocket erosion on lower slope just above the toe rip rap; protruding rip rap upstream is creating an eddy, scouring the levee slope; Site # is the same as RM28.40,LM0.30; previously rated "U"; pictures will be made available during the next survey.					
11/05/2008: Cut into levee profile; riprap slide; rodent holes; pictures do not match GPS and current condition. [2017 Site ID:RD2089U02RM28.35]					

LM Start	0.40	Rating **	A/W	Issue No.	1 (cont)
LM End	0.41	Issue Type +	Ma	Location *	WS

Photo 1 of 3 : FA_2018_RD2089_317_1_20180906_00001.jpg



Front view of the site.

Photo 2 of 3 : FA_2018_RD2089_317_1_20180906_00002.jpg



Close view of the erosion.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.40	Rating **	A/W	Issue No.	1 (cont)	
LM End	0.41	Issue Type +	Ma	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR Erosion Survey			37.809960 °	37.809960 °	
				-121.413200 °	-121.413200 °	
DWR ID	RD2089U02RM28.35					
Comment Code						
Inspector Comment						
09/13/2017: No significant change observed.						
09/26/2016: The erosion site was visited by land survey instead of water surface survey due to the dense water grass in the river this year. No significant change observed.						
06/25/2015: No significant change observed.						
07/02/2014: No significant change observed.						
08/13/2013: No significant change observed.						
08/07/2012: The site has been visited by boat survey. No significant change observed.						
08/23/2011: No significant change observed on site.						
09/07/2010: Site consists of a jutting rip rap that has created an eddy, scouring the levee slope. Most sections of the toe and lower slope are lined with rip rap. However, the rip rap is sloughing on the mid slope and at the toe, exposing the underlying soils and tree roots. The remaining revetment is no longer adequately protecting the slope. There are 3 Sycamore trees at the toe with exposed tree roots.						
08/05/2010: Recommended for repair, per CLRO.						
09/28/2009: Pocket erosion on lower slope just above the toe rip rap; protruding rip rap upstream is creating an eddy, scouring the levee slope; Site # is the same as RM28.40,LM0.30; previously rated "U"; pictures will be made available during the next survey.						
11/05/2008: Cut into levee profile; riprap slide; rodent holes; pictures do not match GPS and current condition. [2017 Site ID:RD2089U02RM28.35]						

Photo 3 of 3 : FA_2018_RD2089_317_1_20180906_00003.jpg



Close view of the erosion.

LM Start	0.43	Rating **	M	Issue No.	63
LM End	1.31	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.810453 °	37.819111 °
				-121.413532 °	-121.419801 °
DWR ID	DWR_RD2089_02_s_2018_63				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.43	Rating **	M	Issue No.	62
LM End	0.93	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.810453 °	37.814923 °
				-121.413533 °	-121.416290 °
DWR ID	DWR_RD2089_02_s _ 2018_62				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_62_20180906_00060.jpg



View of wild growth on the partially visible landside slope. Spring 2018.

LM Start	0.44	Rating **	M	Issue No.	27
LM End	0.44	Issue Type +	En	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			37.810490 °	37.810490 °
				-121.413638 °	-121.413638 °
DWR ID	DWR_RD2089_02_s _ 2012_27				
Comment Code					
BU : Building					
Inspector Comment					
Portable toilet on bank, at water's edge. And other items.					

Photo 1 of 3 : FA_2018_RD2089_317_27_20180906_00025.jpg



05/24/2011 Portable toilet is in the shadows in the center of the photo at the water's edge.

LM Start	0.44	Rating **	M	Issue No.	27 (cont)
LM End	0.44	Issue Type +	En	Location *	WS

Photo 2 of 3 : FA_2018_RD2089_317_27_20181101_00066.jpg



Close-up view of portable toilet at water's edge. (Fall 2018)

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.50	Rating **	U	Issue No.	54
LM End	0.50	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.810989 °	37.810989 °
				-121.414517 °	-121.414517 °
DWR ID	DWR_RD2089_02_f_2013_54				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					

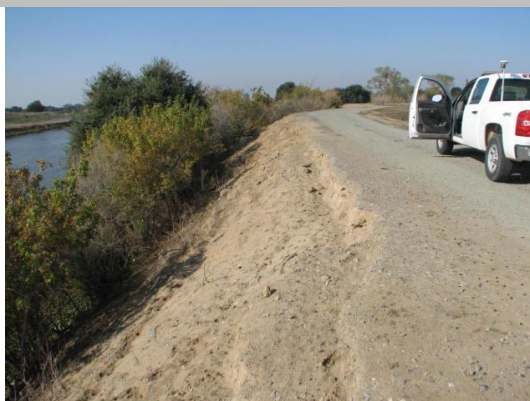
Photo 1 of 1 : FA_2018_RD2089_317_54_20180906_00054.jpg



View of the rodent burrow on the landside levee slope.

LM Start	0.52	Rating **	U	Issue No.	14
LM End	0.52	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.811150 °	37.811150 °
				-121.414748 °	-121.414748 °
DWR ID	DWR_RD2089_02_s_2012_14				
Comment Code					
A2 : Repair the levee slope damaged by livestock and prevent large animal access.					
Inspector Comment					
11/10/2011 Repair damage to slope caused by livestock.					

Photo 1 of 1 : FA_2018_RD2089_317_14_20180906_00015.jpg



11/10/2011 Approximately 1' scarp has been created by livestock travel.

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.54	Rating **	M	Issue No.	64	
LM End	0.54	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.811369 °	37.811369 °	
				-121.415050 °	-121.415050 °	
DWR ID	23047					
Comment Code						
Inspector Comment						
FS_ID:21676 DS_ID:23047 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - air relief valve on waterside. Needs repair.- concrete standpipe on landside. FIELD_STRUCT_DESC: 14-inch irrigation discharge pipe of an unknown material through the levee, 8 feet below the crown. Pump on a pile structure in the stream. Timber walkway to the pump. Air relief valve on the waterside (WS) slope. Concrete distribution standpipe on the landside (LS) toe. [Additional Reference(s): DWR Levee Log, 1991. USACE San Joaquin O&M Manual 8, 1968, (HLM 0.55)]. FS Date: 9/12/2013						

LM Start	0.54	Rating **	M	Issue No.	64 (cont)
LM End	0.54	Issue Type +	En	Location *	

Photo 1 of 3 : UCIP_FA_2018_21676_36861.jpg



WS view: pipe and pump on piling structure in water channel.

Photo 2 of 3 : UCIP_FA_2018_21676_36860.jpg



WS view: air relief valve on pipe. Pipe exposed in levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.54	Rating **	M	Issue No.	64 (cont)	
LM End	0.54	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			37.811369 °	37.811369 °	
				-121.415050 °	-121.415050 °	
DWR ID	23047					
Comment Code						
Inspector Comment						
FS_ID:21676 DS_ID:23047 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - air relief valve on waterside. Needs repair.- concrete standpipe on landside. FIELD_STRUCT_DESC: 14-inch irrigation discharge pipe of an unknown material through the levee, 8 feet below the crown. Pump on a pile structure in the stream. Timber walkway to the pump. Air relief valve on the waterside (WS) slope. Concrete distribution standpipe on the landside (LS) toe. [Additional Reference(s): DWR Levee Log, 1991. USACE San Joaquin O&M Manual 8, 1968, (HLM 0.55)]. FS Date: 9/12/2013						

Photo 3 of 3 : UCIP_FA_2018_21676_36859.jpg



WS view: pipe (left) and steel walkway to pump on piling structure in the channel.

LM Start	0.54	Rating **	M	Issue No.	35
LM End	0.54	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			37.811382 °	37.811382 °
				-121.415054 °	-121.415054 °
DWR ID	DWR_RD2089_02_f_2015_35				
Comment Code					
C2 : Repair depressions or ruts in the crown or slope.					
Inspector Comment					

Photo 1 of 4 : FA_2018_RD2089_317_35_20180906_00028.jpg



View of the levee crown depression looking upstream.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

LM Start	0.54	Rating **	M	Issue No.	35 (cont)
LM End	0.54	Issue Type +	Ma	Location *	CR



View of the levee crown depression looking to the waterside.

* Location	** Rating	+ Issue Type
LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.60	Rating **	A/W	Issue No.	56
LM End	0.61	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.812000 °	37.812100 °
				-121.415700 °	-121.415900 °
DWR ID	DWR_RD2089_02_s_2018_56				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:507					
Site Designation:LMA-413					
Repair Type: Erosion					
Rating:Serious					
Field Date:8/16/2017					
Notes: Vertical cut on outside bend of river					

Photo 1 of 3 : LEVAL_FA_2018_507_4335.jpg



LM Start	0.60	Rating **	A/W	Issue No.	56 (cont)
LM End	0.61	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_FA_2018_507_4336.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.60	Rating **	A/W	Issue No.	56 (cont)	
LM End	0.61	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	2017 Storm Damage			37.812000 °	37.812100 °	
				-121.415700 °	-121.415900 °	
DWR ID	DWR_RD2089_02_s_2018_56					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.						
Site ID No:507						
Site Designation:LMA-413						
Repair Type: Erosion						
Rating:Serious						
Field Date:8/16/2017						
Notes: Vertical cut on outside bend of river						

Photo 3 of 3 : LEVAL_FA_2018_507_4340.jpg



LM Start	0.76	Rating **	M	Issue No.	15
LM End	0.76	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			37.813934°	37.813934°
				-121.414320°	-121.414320°
DWR ID	DWR_RD2089_02_f_2014_15				
Comment Code					
E2 : Schedule repair of erosion site prior to the next inspection.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_15_20180906_00016.jpg



View of the scour from surface runoff on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.83	Rating **	M	Issue No.	21
LM End	0.83	Issue Type +	Ma	Location *	WS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Animal Control		37.814773 °	37.814773 °	
			-121.414555 °	-121.414555 °	
DWR ID	DWR_RD2089_02_s _ 2012_21				
Comment Code					
A2 : Repair the levee slope damaged by livestock and prevent large animal access.					
Inspector Comment					
Livestock have worn paths into levee slope.					

No Photos

LM Start	0.83	Rating **	M	Issue No.	38
LM End	0.83	Issue Type +	Ma	Location *	WS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Animal Control		37.814844 °	37.814844 °	
			-121.414566 °	-121.414566 °	
DWR ID	DWR_RD2089_02_s _ 2012_38				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Active burrows present.					

No Photos

LM Start	0.84	Rating **	M	Issue No.	9
LM End	0.84	Issue Type +	En	Location *	CR
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Encroachments		37.814881 °	37.814881 °	
			-121.414676 °	-121.414676 °	
DWR ID	DWR_RD2089_02_s _ 2012_9				
Comment Code					
FE : Fence					
Inspector Comment					
Gate across levee crown.					

Photo 1 of 1 : FA_2018_RD2089_317_9_20180906_00009.jpg



View of the fence gate across levee crown.

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

Reclamation District No. 2089 Stark

No Photos

View of the ramp on the landside levee slope.

05/24/2011 Deep vertical burrow in ramp on land side of levee.

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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.85	Rating **	U	Issue No.	40 (cont)	
LM End	0.90	Issue Type +	Ma	Location *	LS	
Category	Earthen Levee			GPS Latitude/Longitude		
				Start		End
Item	Animal Control			37.814997 °		37.814970 °
				-121.414774 °		-121.415767 °
DWR ID	DWR_RD2089_02_s_2012_40					
Comment Code						
A1 : Exterminate rodents and backfill and compact or grout burrows.						
Inspector Comment						
Numerous burrows on landside slope adjacent to hay storage area. Deep burrows in crown and landside ramp.						

Photo 2 of 3 : FA_2018_RD2089_317_40_20180906_00034.jpg



05/24/2011 Deep vertical burrow in levee crown.

LM Start	0.85	Rating **	U	Issue No.	40 (cont)
LM End	0.90	Issue Type +	Ma	Location *	LS

Photo 3 of 3 : FA_2018_RD2089_317_40_20180906_00035.jpg



View of the multiple rodent holes on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	0.91	Rating **	A/W	Issue No.	59
LM End	0.93	Issue Type +	Ob	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.814890°	37.814890°
				-121.415880°	-121.416330°
DWR ID	DWR_RD2089_02_f_2017_59				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:					
Site ID No:110					
Site Designation:335-3					
Repair Type: Seepage					
Rating:					
Field Date:					
Notes:					

No Photos

LM Start	0.91	Rating **	M	Issue No.	22
LM End	0.91	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.814903°	37.814903°
				-121.415887°	-121.415887°
DWR ID	DWR_RD2089_02_s_2015_22				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 2089 Stark

Photo 1 of 1 : FA_2018_RD2089_317_41_20180906_00036.jpg




05/24/2011 Old CMP left on waterside levee slope, needs to be removed

Photo 1 of 1 : FA_2018_RD2089_317_5_20180906_00005.jpg



View of the rodent holes on the landside levee slope.

Photo 1 of 2 : FA_2018_RD2089_317_12_20180906_00012.jpg



View of several large rodent holes on the levee crown.

* Location	** Rating	+ Issue Type
LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.00	Rating **	U	Issue No.	12 (cont)
LM End	1.00	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.815182 °	37.815182 °
				-121.417439 °	-121.417439 °
DWR ID	DWR_RD2089_02_f_2014_12				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 2 of 2 : FA_2018_RD2089_317_12_20180906_00013.jpg



View of several rodent burrows on landside levee hinge and crown.

LM Start	1.05	Rating **	N	Issue No.	29
LM End	1.05	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.815629 °	37.815629 °
				-121.418133 °	-121.418133 °
DWR ID	DWR_RD2089_02_s_2012_29				
Comment Code					
T5 : Tree stumps.					
Inspector Comment					
14" dia stump. Could not verify as the area is overgrown with high weeds.					

Photo 1 of 1 : FA_2018_RD2089_317_29_20180906_00027.jpg



Tree stump >2" left after vegetation and tree removal.

LM Start	1.08	Rating **	M	Issue No.	17
LM End	1.08	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			37.816025 °	37.816025 °
				-121.418544 °	-121.418544 °
DWR ID	DWR_RD2089_02_s_2012_17				
Comment Code					
DE : Debris					
Inspector Comment					
Water tanks disposed of on levee are obstructive.					

Photo 1 of 1 : FA_2018_RD2089_317_17_20180906_00018.jpg



View of water tanks disposed on waterside slope.

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.12	Rating **	M	Issue No.	30
LM End	1.12	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.816514 °	37.816514 °
				-121.418948 °	-121.418948 °
DWR ID	DWR_RD2089_02_s_2012_30				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					

No Photos

LM Start	1.18	Rating **	M	Issue No.	6
LM End	1.18	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.817271 °	37.817271 °
				-121.419380 °	-121.419380 °
DWR ID	DWR_RD2089_02_s_2014_6				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_6_20180906_00006.jpg



View of the large rodent hole on the landside levee slope.

LM Start	1.24	Rating **	U	Issue No.	31
LM End	1.24	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.818051 °	37.818051 °
				-121.419743 °	-121.419743 °
DWR ID	DWR_RD2089_02_s_2012_31				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					
Trim back the shrub to allow access and visibility.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2089 Stark

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Salmon Slough	Right	1.35	10/31/2018 10/31/2018	Richard Willoughby

LM Start	1.26	Rating **	U	Issue No.	33
LM End	1.26	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.818408 °	37.818408 °
				-121.419738 °	-121.419738 °
DWR ID	DWR_RD2089_02_f_2018_33				
Comment Code					
T4 : Trim trees over roadway to at least 12 feet above ground level.					
Inspector Comment					
Tree on landward slope overhanging crown of levee.					

Photo 1 of 1 : FA_2018_RD2089_317_33_20181101_00068.jpg



Looking west at trees overhanging crown of levee. (Fall 2018)

LM Start	1.27	Rating **	M	Issue No.	57
LM End	1.27	Issue Type +	En	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.818499 °	37.818499 °
				-121.419754 °	-121.419754 °
DWR ID	DWR_RD2089_02_f_2013_57				
Comment Code					
V6 : Landscaping					
Inspector Comment					
Remove cactus from levee crown.					

Photo 1 of 1 : FA_2018_RD2089_317_57_20180906_00059.jpg



View of the cactus on the landside levee shoulder.

LM Start	1.29	Rating **	U	Issue No.	19
LM End	1.29	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.818740 °	37.818740 °
				-121.419759 °	-121.419759 °
DWR ID	DWR_RD2089_02_f_2016_19				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : FA_2018_RD2089_317_19_20180906_00020.jpg



View of the rodent burrow in the landside levee slope.

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

Reclamation District No. 2089 Stark

No Photos

Photo 1 of 1 : FA_2018_RD2089_317_18_20180906_00019.jpg



View of the tree stump from the levee crown.

Photo 1 of 1 : FA_2018_RD2089_317_16_20180906_00017.jpg



View of the rodent burrow in the landside levee slope.

* Location	** Rating	+ Issue Type
LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement

Reclamation District No. 2089 Stark

* Location	** Rating	+ Issue Type
LS : Land Side	A : Acceptable	Ma : Maintenance Deficiency
N/A : Not Applicable	N : Not Inspected/Rated	Ob : Design & System Obsolescence
WS : Water Side	M : Minimally Acceptable	En : Enforcement
CR : Crown	U : Unacceptable	
	A/W : Acceptable but Monitor & Maintain	